

In the Specification:

Please replace the paragraph beginning on page 20, line 25 with the following amended paragraph:

Fig. 5 is a flowchart of the process for creating the servo pattern of the present invention created by the servo pattern creating device 10 in Fig. 3. The servo pattern creating process according to the procedure of steps S1 to S6 is explained below with reference to Figs. 6A to 8C. Pattern elements to be used for the servo pattern are determined at step S1. In the servo pattern of the present invention, graphics having circular or square shape surrounded not by the prior lines but by a certain closed curve are determined as the pattern elements. For example, a circle is determined as the pattern elements here. The pattern elements are arranged on an x axis on the plane used for the creating process with constant intervals at step S2. Fig. 6A illustrates an example that the circular pattern elements 54 are arranged on the x axis with constant intervals b at step S2. The pattern elements are arranged on the plane uniformly by parallel transfer by a vector at step S3. The process at step S3 is as shown in Fig. 6B. That is to say, one arbitrary vector 56 which is not parallel with the x axis is determined, and pattern elements are further arranged in a position which is shifted parallel by integral k multiple of the vector 56 with respect to all the pattern elements arranged on the x axis. This process is repeated, so that a pattern element arranged plane 58 in which the pattern elements are arranged uniformly on the plane is formed as shown in the drawing. A pattern element arranged plane 60, which is obtained by rotating the pattern element arranged plane 58 in Fig. 6B through an arbitrary angle ϕ , is formed as shown in Fig. 6C at step 4 in

Fig. 5. A first burst area is created at step S5 in Fig. 5. That is to say, as to the pattern element arranged plane 60 in Fig. 6C, one arbitrary width W is determined with respect to the x axis, and the portion of width W is fetched, so as to be the first burst area 62 as shown in Fig. 6D. Finally, a second burst area is created at step S6 in Fig. 5. That is to say, the first burst area 62 in Fig. 6D is inverted axisymmetrically with respect to the x axis as shown in Fig. 7E Fig. 6E so as to be the second burst area 64 (Fig. 6F). According to the procedure of steps S1 to S6, the first burst area 62 and the second burst area 64 are arranged so that the x axis matches with a disc circumferential direction and an y axis matches with a disc radial direction. In such a manner, the servo pattern is created, and this is recorded as a servo frame 66 in the radial direction of the disc 16 as shown in Fig. 6F Fig. 6G. In Fig. 6F, Fig. 6G, the servo frame 66 is divided into 16 areas in the circumferential direction so as to be arranged on the disc 16. A number of division can be, however, a suitable number of servo frames as the need arises. The servo pattern of the present invention in Fig. 6E recorded in such a manner is formed according to a condition, explained below. As a result, even if a shift occurs on the pattern recorded into the disc in the circumferential direction at the time of recording, the error can be eliminated or suppressed at the time of demodulating a position signal.